THE PLANT DISEASE REPORTER

Issued by

THE PLANT DISEASE SURVEY, DIVISION OF MYCOLOGY AND DISEASE SURVEY
BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

Volume XXVIII November 7, 1944 Number 36

The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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POTATO STORAGE IN THE RED RIVER VALLEY OF MINNESOTA

Ian W. Tervet

Inspection of potatoes, principally certified seed, in storage in warehouses in the Red River Valley was made during the week ending November 4, 1944. The writer was accompanied by A. G. Tolaas, in charge of Seed Potato Certification for the Minnesota State Department of Agriculture, and R. C. Rose, extension pathologist of the University of Minnesota.

Observations made during the growing season indicated that Late Blight [Phytophthora infestans] would be relatively unimportant in stored potatoes derived from the early varieties. Early plantings of Red Warbas, Triumphs, and to a less extent Cobblers, were so severely attacked by leaf hopper that in many fields the vines were dead before Late Blight had reached the epidemic stage. Late Blight storage rot therefore was not expected to be severe in the early plantings of these varieties. Late varieties, Katahdin, Early Rose, etc, were exposed to heavier Late Blight infection in the field and loss in storage from this disease was expected.

In the Red River Valley, the month of August was very wet, water standing in some fields for 3 days or more. The level condition of the land, the relatively little tile drainage in operation, and the heavy soil type combined to maintain the soil in a waterlogged condition for several days. In some fields at digging time, so many tubers had decayed that fields were abandoned. Rotted tubers occurred in low spots in all fields, and while most growers made some effort to avoid picking potatoes from low spots, their efforts were not too successful. Thus many tubers that were slightly rotted were stored with apparently sound tubers. Further complicating the storage situation was the dirty condition of many tubers as they went into storage, for the fields were still wet at digging time. The soil that was loaded into storage bins with the potatoes helped to impede air circulation, with the result that breakdown of potatoes occurred rapidly in storage. Loss from decay in storage already is heavy and further loss is expected. It is difficult to obtain accurate figures for the loss but an average of estimates from several sources gives a figure of 20% loss. Some additional loss will occur but estimates of future losses are very varied since predictions have been based on the possible keeping quality of potatoes with Water Rot.

At Moorhead, Minnesota we examined one lot of Triumphs in process of being regraded. Thirty percent of the tubers were affected with Water Rot but only a trace of Late Blight occurred. The potatoes after grading were sacked and were going to be stored in sacks for as long as they would keep. We cut every tuber in one sack(between 90 and 95 pounds) for rots that were not detected by the graders. From this sack approximately 12% of the tubers were rotted, some of the tubers having little external evidence of rot although the flesh was brown and necrotic.

Other bins in the Moorhead area were relatively free from Water Rot. In one small storage house Katahdins were heavily infected with Late Blight, between 30 and 40% of the tubers being infected. No other lots of any variety were as heavily infected with Late Blight, nor was Late Blight found in any quantity at Halsted nor in the East Grand Forks area. The only other storage house where Late Blight was found during

the past week was at Thief River Falls. There one lot of White Rose had between 10 and 15% tubers rotted from Late Blight.

In the East Grand Forks area, heavy losses from Water Rot have occurred and it must be concluded that Water Rot is responsible for most of the storage rot in that area, Late Blight being of minor importance. Growers have already dumped many thousands of bushels, and we saw a few bins of Red Warbas and Triumphs that had already shrunk appreciably, one having decreased about 50%. It appears that loss from Water Rot is heaviest in the red skinned varieties, Red Warba and Triumph.

Reports from shippers state that considerable rot has developed in cars in transit.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

OTHER REPORTS ON DISEASES OF POTATO

Reports are of Emergency Plant Disease Prevention Project surveys.

POTATO DISEASES IN WESTERN NEBRASKA: Only one section, the Scottsbluff area, was surveyed during October, and it was hoped to learn more of the distribution of 2 diseases new to the area: Leak (Pythium spp.) and Bacterial Ringrot (Phytomonas sepedonica) [Corynebacterium sepedonicum]. Almost all fields had been harvested, so the survey consisted of examing the tubers in the storage cellars and at the washers and graders. Wherever considerable disease was found in the stored tubers, an examination was made of the field in which the crop was grown, to gain knowledge, if possible, of soil conditions favoring the disease.

No Ringrot was found, but Leak was found fairly common in the Gering district south of the North Platte River, and one bad lot was found south of Morrill. Fields in which "Leak" potatoes were grown appeared cloddy, as if excess of irrigation water may have been a factor.

Twenty-three storage cellars and 5 washers were visited. Leak was found in 11 of the storage cellars, and at one of the washers. In most of the storage cellars the proportion of tubers showing Leak was small, but in 3 or 4 cellars the disease was sufficiently bad so that immediate marketing would be necessary to avoid very great losses.

The Nebraska Certified Potato Growers Association are now making their final inspections for certification. They reported small amounts of Leak in 3 of 40 lots examined to date.

Of the 11 storage cellars showing Leak, only 1 was north of the River, and the percentage of diseased tubers here was very small. But an area north of the River was encountered where Scab (Actinomyces scabies) infection was very severe. Rhizoctonia (solani) was more or less prevalent in all districts. Fusarium End Rots (F. [solani f.] eumartii and F. oxysporum) and Spindle Tuber (Virus) were also widespread.

POTATO DISEASES IN SOUTH EASTERN WYOMING: Trace amounts of Bacterial Ringrot, Scab, Rhizoctonia, and Leak (Phytophthora sp.) were found during the week ending October 14 on potatoes being harvested in a few of the fields surveyed in Goshen County--E. W. Bodine

LATE BLIGHT IN WESTERN WASHINGTON: Late Blight was severe in home gardens observed in Tillamook County.

In Multnomah County, recent rains have accentuated the development of Late Blight on the late varieties in lower areas, but too late for the disease to be a significant factor in reduction of yield. As yet, no tuber rot due to Late Blight was evident and loss will depend entirely upon subsequent weather, where special precautions are not used in harvesting. Harvest was in progress in the eastern higher area of the county where the greater acreage of potatoes occurs. Late Blight had been successfully checked in the fields noted in this area. --Lytton W. Boyle, Oct.27-Nov. 4

STEM ROT AND OTHER DISEASES OF SWEETPOTATOES IN THE NEW JERSEY-DELAWARE-MARYLAND AREA

E. A. Walker

A considerable amount of root blackening and rotting of bedded sweetpotatoes was observed during the last week of May in plant beds in the vicinity of Salisbury on the Maryland Eastern Shore. A Diplodia sp. isolated may be the one causing Java black rot, which occasionally becomes quite destructive to sweetpotatoes in the Bay area.

Dr. W. F. Jeffers reported a myxomycete growing abundantly on plants in seed beds near Salisbury (June 14).

Wilt or Stem Rot [Fusarium oxysporum f. batatas] was present in most fields observed June 15 in the Glen Burnie area of Anne Arundel County in southern Maryland. Some fields showed a loss of 2%.

In the lower Eastern Shore counties of Maryland, visited during the period from June 19 to 24, crops were suffering from continued drought which had retarded the transplanting season. Most growers had completed transplanting from plant beds and were making slip cuttings for seed.

Root Rot in the plant bed was worse this year than in any previous season. Most growers in the Salisbury area were complaining about this condition. A soft rot and a dry rot were found affecting a large number of affected seed roots examined. Dr. Leland Shanor reported that in cultures the soft rot produced a Fusarium sp. in every case, while the dry rot yielded Sclerotium batatícola. Plants newly set in fields were wilting and dying, for the most part, from the effects of drought. Fusarium Wilt or Stem Rot was appearing frequently in fields where plants were well established. A field near Mardela had 2%, one near Hebron 3%, and one near Pocomoke averaged 4% with as much as 10% in some parts of the field. In 38 fields visited in the Salisbury area, Stem Rot occurred as follows: 7 fields (18.4%) showed no Stem Rot; 10 fields (26.3%) with 1% Stem Rot; 14 fields (36.8%) with 2%; 3 fields (7.9%) with 3%; 2 fields (5.3%) with 4%; and 1 field (2.6%) each with 5% and 10%.

Stem Rot was beginning to develop in fields observed in central Eastern Shore areas during the third week in July. The average amount in most fields was more than 2%. Four fields near Denton had an average of 2%, a field at Federalsburg 4%, and a field at Hurlock 8%.

Stem Rot was not appearing rapidly in fields observed in southern New Jersey during the latter part of July, although the prevalent drought

would aid the development of the disease symptoms. In Cumberland County 3 fields near Fairton were free from Stem Rot; at Newport one field showed 2%. In Atlantic County, Stem Rot averaged about 1% in 18 fields visited near Hammonton and Buena. In Maryland, a field at Price in Queen Annes County on the upper Eastern Shore was seen in which 4% of the plants were affected.

During the week ending August 12, 60 fields were visited in New Jersey, in Burlington, Camden, Gloucester, and Salem Counties. Sweetpotatoes were suffering considerably from drought and Stem Rot. Damage from Stem Rot was much greater than last year. Some system of seed selection should be developed to assist growers to avoid this disease in the future. Very little Stem Rot was observed in the vicinity of Palmyra in Burlington County and of Magnolia in Camden County. At Medford in Burlington County 2 fields averaged 2.5%. In Gloucester County, at Pitman 12 fields averaged 1%; at Mullica Hill 24 fields were examined and 20 contained more than 1% Stem Rot, with 2 fields showing high losses, of 12% and 15%, the average for the area being 3.5%; at Swedesboro 12 fields averaged 3.7%. In Salem County a field at Woodstown showed 4%, while 4 fields near Deepwater averaged 3%. The average amount of Stem Rot observed in all fields on this trip was 2.7%.

Stem Rot was causing a loss of 5% in one field and 7% in another observed near Colesville in Montgomery County in central Maryland during the middle of August. A few plants showing Genetic Variegation were also observed in these fields.

During the last 10 days in August sweetpotato fields were inspected in all 3 States. Stem Rot was very abundant in all sweetpotato areas visited, most fields containing a trace or more. In 21 fields visited in Maryland Stem Rot averaged 3.6%; less was noted in southern Maryland than on the Eastern Shore. Four fields visited in the Gambrills and Glen Burnie areas of southern Maryland averaged 1.8%. On the Eastern Shore 2 fields near Preston averaged 3.5%, 5 fields in the Mardela-Delmar area averaged 4.4% with as much as 14% in one field, and 9 fields between Delmar and Salisbury averaged 4.3%. In Delaware, 6 fields visited in the Laurel-Seaford area averaged 3.5% Stem Rot. In New Jersey, infection averaged 3.4% in 28 fields visited. In 12 fields in the Woodstown-Pennsville area the average was 4.8%, with 2 fields showing 8% and one 12% infection. Five fields in the Mullica Hill area averaged 2.6%, 2 fields near Gibbstown 3%, and 9 fields in the Swedesboro area 2% Stem Rot.

Leaf Spot (Phyllosticta batatas) was very prevalent on Maryland Golden in several fields near Glen Burnie, and in 3 fields north of Salisbury. It was not observed on the Nancy Hall variety in the same fields. This disease was not seen in Delaware or New Jersey.

White Rust (Albugo ipomoeae-panduranae) was not observed in southern Maryland or in New Jersey. At Salisbury on the Eastern Shore it was very common on Maryland Golden but absent on Nancy Hall. It was also very abundant in 4 fields of Maryland Golden in the Laurel-Seaford area in Delaware.

Variegation (Genetic) was noticed in 2 fields near Glen Burnie in southern Maryland, but was mostly uncommon in other areas.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

SWEETPOTATO STEM ROT SURVEY IN SOUTH CAROLINA

Alton E. Prince

The 2 weeks from August 28 to September 9, 1944 were spent mostly in making an estimate of the damage that is being caused by the sweetpotato Wilt fungi (*Fusarium batatatis* and *F. hyperoxysporum*) [*F. oxysporum* f. *batatas*] in the Piedmont area of South Carolina.

Since more attention has been called by farmers to sweetpotato Wilt this year than previously a survey was made in cooperation with the South Carolina Experiment Station and the South Carolina Crop Pest Commission.

The method of sampling in my survey is to choose every third or fourth place where sweetpotatoes are grown along a pre-determined route of travel. The number of infected plants is then determined by pacing 2 dimensions, if necessary, walking along the rows, taking 4 rows at a time if the plants are thick, or 6 if scattered, and counting the number of infected hills. From each field where Wilt is found a specimen is taken for Dr. G. M. Armstrong to be used in his *Fusarium* Wilt studies.

Thus far, of the 51 fields and gardens inspected ranging from 1/10 acre to 7 acres in size, 38 had from .006% (3 infected hills in 5 acres) to 2.8% infection, and 13 had no evident Wilt symptoms.

It is already apparent that the Wilt fungi are well distributed throughout the Piedmont but it is rather unusual for them to be doing an excessive amount of damage; however, the losses caused will not get less but will continue to be greater.

It can be estimated that each plant killed by wilt reduces the yield 1 pound. This figure was computed by considering that there are 10,000 plants per acre and that the yield is 200 50-pound bushels.

A summary of this survey follows:

Summary of sweet potato Fusarium wilt survey in the Piedmont region of South Carolina

County	No. Areas Inspected	Total Area Inspected Acres	Range of Infection Per Cent
Abbeville	3	8.5	0.006 - 0.11
Anderson	7	13.5	0.0 - 1.0
Cherokee	3	2.05	0.4 - 1.4
Chester	6	5.25	0.0 - 0.4
Edgefield	2	0.6	0.0 - 0.2
Greenwood	4	3.65	0.0 - 2.7
Greenville	6	6.6	0.0 - 2.8
Laurens	2	0.5	0.0 - 0.4
Oconee	1	0.25	0.1 -
Pickens	1	0.5	2.6
Saluda	5	0.65	0.0 - .82
Spartanburg	5	3.95	0.1 -1.6
Union	4	2.5	0.0 - 0.6
York	3	0.95	0.4 - 1.1
Total	51	49.45	0 2.8

Sweetpotato plots, from home patch to about 2 acres in size, were inspected for Wilt in Lancaster, Chester, Union, Spartanburg, and Laurens Counties during the week of September 18. No information was obtained that would change the data from the earlier survey.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

SWEET POTATO DISEASES IN INDIANA AND ILLINOIS

J. S. Tidd

In Mason County near Havana, Illinois, and in Adams and Madison Counties, an estimated 10% of the sweetpotato plants were dying from Stem Rot or Fusarium Wilt [F. oxysporum f. batatas]. In one field near Quincy, at least 25% of the plants (Nancy Hall variety) were dead and others dying from Stem Rot.

Sweetpotatoes in Knox and Gibson Counties in southwestern Indiana and in Union County in southern Illinois were, for the most part, already harvested and in storage when a trip into this area was made during the week ending October 28. Nevertheless, an opportunity was afforded to examine the roots in fields where digging was being completed and in Illinois packing houses at Anna and Dongola where limited quantities were being washed and sorted for market. Storage rots will not be evident until curing has been completed and the roots sorted and packed for shipment during late November and December.

Stem rot or Wilt was reported as causing the greatest loss. No accurate notes could be obtained regarding prevalence for reasons already mentioned. From various growers, it was learned, however, that some loss occured in the majority of fields, ranging from traces to 50% of the plants either killed or infected by the organism. One of the better growers in Gibson County, Indiana, who, in the past, has been troubled mainly with Stem Rot, estimated his loss from this disease on 10 acres of Yellow Jerseys as 50%. The same situation apparently prevailed in Union County, Illinois where the Nancy Hall variety is largely grown.

Selected seed roots from selected hills had been used by several growers for planting stock and was proving its worth in the control of Stem Rot and other diseases. In 8 acres of the Yellow Jersey variety near Johnson, Indiana, where the roots were dug and being placed in baskets, the results were clearly observable. On the half of the field where hand-selected home grown seed stock had been planted, the production of No. 1 sweetpotatoes was nearly one-third greater than on the remainder of the plot where Oklahoma seed stock purchased locally had been used.

Rains in September following the summer drought made for renewed growth of those plants surviving stem rot, with the result that in many fields roots were marred by Growth Cracks (physiological). In 6 fields in Gibson County, Indiana where harvesting was not quite completed, the prevalence of growth cracking was noted as a trace in 2 fields; 5%, 20%, 3%, and 2% in the other fields.

Occasional sweetpotatoes with Soil Rot or Pox (Actinomyces ipomoeae) and Black Rot (Ceratostomella [Endoconidiophora] fimbriata) were found in several of the fields in southern Indiana as discards and also in

one of the packing houses at Dongola, Illinois where the roots were being graded and washed prior to shipment. Scurf or rust (Monilochaetes infuscans) was also present on roots being washed in packing houses at Anna, Illinois. Roots from different growers had been mixed prior to grading, no doubt because the various lots varied in quality. The general consensus appeared to be that in some fields Soil Rot was almost as important in limiting production as Stem Rot.
EMERGENCY PLANT DISEASE PREVENTION PROJECT

OTHER REPORTS ON DISEASES OF SWEETPOTATOES

Except where noted, reports are of Emergency Plant Disease Prevention Project surveys.

DISEASES IN TIDEWATER VIRGINIA: The severe form of Pox (Actinomyces ipomoeae), generally called Soil Rot, has appeared again this year. It is present on 30% of fields visited and seems to be on the increase. The disease causes complete suppression of yield in limited areas of fairly large fields, causing death of many plants and failure of the severely affected plants to vine. The affected areas of a field are often marked by weed patches. Many of those that do vine do not produce marketable sweetpotatoes. (There is a marked tendency for the vines to flower, the first flowers of sweetpotatoes ever seen by the writer in the commercial fields. The girdling of the stem and root tissues by the actinomycete possibly is conducive to sexual reproduction, as with the artifical girdling reported by Julian Miller at Louisiana State--R.E.A.)

Black Rot (Ceratostomella [Endoconidiophora] fimbriata) is generally more severe than in previous years. In 2 fields 30 and 50% loss was observed. This loss was represented only by rejections at the packing house.

In a more or less rectangular spot in the center of a large field all plants were affected with Foot Rot (Plenodomus destruens). Most plants had been killed earlier and the rest were struggling to survive. R. E. Atkinson, Emergency Plant Disease Prevention Project, and G. K. Parris, Virginia Truck Experiment Station, Norfolk.

DISEASES IN ALABAMA: One hundred and fifty acres of improved Puerto Rico sweetpotatoes grown on the State Prison Farm at Atmore, Alabama, by the Horticulture Department, Alabama Polytechnic Institute, were surveyed for disease. Since the entire history of all operations is known, the project offers an excellent opportunity to study the effectiveness of disease control measures on a large scale. The seed roots from which the slips were grown were Louisiana certified. They were inspected at bedding time by Dr. J. R. Jackson, Department Plant Pathology, Alabama Polytechnic Institute, and he found no disease. Dr. Jackson also inspected the plant beds just prior to setting time and only one small spot of Black Rot was found. This spot was destroyed by the operators and no plants were pulled from the immediate area. The entire acreage was carefully surveyed by Dr. Jackson and the writer

during the week of August 28, and the only disease observed was a Leaf Spot (Septoria batatícola). At digging time the seed roots and all of No. 1 sweetpotatoes will go into storage. If possible the sweetpotatoes will be inspected again at digging time and at the end of storage.

Sweetpotatoes in the Cullman area were inspected during the week of October 23. Cullman is the center of the principal sweetpotato section of the state. The growing season has been favorable and good yields are being obtained.

Black Rot is by far the most serious disease problem in the area. The amount of the disease found on roots as they were dug was considerably more than usual. Five percent of the sweetpotatoes in one 14-acre field were found to be affected. Few fields were observed where the sweetpotatoes were free from Black Rot. In most fields it varied from a trace to 2%. The bulk of the sweetpotatoes grown in the section either go to the dehydrator or are sold directly from the field. It will be necessary to check the stored sweetpotatoes to ascertain the full effect of Black Rot.

Comparatively little Fusarium Stem Rot was found in the area. About 3% of the plants in one field were found to be affected. Scattered infections were found in several other fields.

No other diseases of consequence were found. --G. M. Stone

DISEASES IN MISSISSIPPI: During the last week of August, a rather severe burning of the leaves accompanied by a leaf spotting was noted in one sweetpotato field near Toomsuba in Lauderdale County. A straight-spored Colletotrichum sp. was found to be associated with the spots.

A considerable amount of Scurf (Monilochaetes infuscans) was found at the Mississippi Agricultural Experiment Station at Poplarville. It was reported that this disease is becoming more common in this section of the State.--Douglas C. Bain.

DISEASES IN OKLAHOMA: Nineteen plantings consisting of approximately 350 acres were surveyed during the period from October 12 to 26.

Stem Rot was the most widespread and prevalent disease of sweetpotato observed during this period. In several of the plantings loss of 5 to 10% was not at all uncommon, and in some of the more severely attacked plantings more than 10%. In a planting near Vinita (Craig County) a loss of over 50% could be attributed to Stem Rot.

Leaf Spot (Alternaria sp.) occurred in several of the plantings surveyed. The spots varied in size; however, most of them were rather large, ranging from a half inch to an inch in diameter. In a small home planting near Duncan (Stephens County) numerous infected leaves had begun to dry and wither.

Root Knot (Heterodera marioni) was observed near Okemah (Okfuskee County) and Durant (Bryan County). In the most severely infested plantings, young roots could easily be found with typical symptoms.--Howard W. Larsh

DISEASES IN ARKANSAS: Twenty-three fields were surveyed consisting of approximately 550 acres, during the periods October 1 to 11 and October 26 to 31.

Earlier examination of sweetpotato plantings had shown very few vines to be infected by the Stem Rot fungus. During the survey in early

September only a few vines could be found with typical symptoms. Nevertheless, Wilt was found in nearly every planting surveyed at this period. Infected vines could be found in all stages of development of the disease. Some vines showed early symptoms in which the leaves were duller in color as compared to healthy leaves. In many cases the older leaves on affected plants were distorted and yellowish to brown in color, accompanied by wrinkling and drying. In most of the fields surveyed advanced stages could be found, that is, plants that had been completely killed by wilt and others in which the greater part of the vines were invaded and had begun to darken.

The most severely infected planting was observed near Hope where at least 60% of the hills had been destroyed by Stem Rot. Sweetpotatoes collected from this field showed the typical discoloration of the invaded vascular bundles. Every root dug in this field had the apical ends distorted and was in the advanced stage of the disease.

Rootknot was observed near Hope and Blevins (Hempstead County). In the 2 most severely infested plantings young roots could easily be found with typical symptoms. The grower at Blevins has been forced to stop planting sweetpotatoes on a large scale because of the severity of Rootknot.

Leaf Spot (Phyllosticta batatas) was observed in 2 plantings between Strong and Eldorado (Union County). In each instance, a reduction of nearly 10% of the leaf surface had resulted from early infection.

Leaf Spot (Alternaria sp.) was observed in several of the plantings surveyed.

The spots varied from a quarter inch to nearly one inch in diameter. This type of leaf spot was observed occasionally during the surveys made last season; however, this year it was found frequently and rather early in the growing season.--Howard W. Larsh

BLACK ROT IN AN OREGON TRIAL PLANTING: Sweetpotato specimens received at the Experiment Station from a trial planting near Oregon City, Clackamas County, during October, were affected by Black Rot.--Lytton W. Boyle

STEM ROT IN CALIFORNIA: A number of fields of sweetpotatoes were observed in Stanislaus County during the last part of October. The only disease seen was Fusarium Stem Rot. Only a trace was present in most fields, but some contained as high as 10% of dead and occasional infected living plants.--Henry Schneider

CELERY DISEASES IN WESTERN STATES

Reports are of Emergency Plant Disease Prevention Project surveys

COLORADO: Late Blight (Septoria apii) was found in all fields inspected in Denver and Adams Counties during the week ending September 23. Fusarium Yellows (F. oxysporum f. apii) was noted in some fields, ranging from a trace to 2% infection.

During the week ending October 7, surveys were made in Adams and Denver Counties in company with Mr. J. L. Forsberg, Assistant Pathologist, Colorado Experiment Station. Late Blight was common in all fields inspected. Early Blight (Cercospora apii) was 100% prevalent in one

field. Pink Rot (Sclerotinia sclerotiorum) was found on a few plants. In one field in Denver County, 10% of the plants were infected with Mosaic (Virus). Only a trace of Mosaic was noted in the celery area in the vicinity of Arvada. A new disease (possibly of virus nature) was seen in a few plants near Welby, Adams County.--E. W. Bodine

WESTERN WASHINGTON: Late Blight was less severe than last season in fields observed during the latter half of September. Control in most instances had been satisfactory. However, severe losses were noted where overhead irrigation was used and the control program was not properly coordinated with irrigation.

A Root Rot of undetermined cause was noted to cause serious loss on one farm in Snohomish County. The reddish to brown lesions on the roots were not typical of any observed previously in this area.--Lytton W. Boyle

WESTERN OREGON: In Marion County, October 18 to 20, a further check was made to determine the extent of distribution of the Rootknot nematode [Heterodera marioni], which had been observed in one field of this crop on September 2 (PDR 28: 916). Several centers of bad infestation were found. Along roadways leading from such centers occasional plants were noted to be infected. About 100 acres of celery are grown each year in this area, and it is estimated that a tenth of the acreage may already be infested. Losses in certain spots were severe enough this season to impress growers with the potentialities of this pest. Certain growers claim to have noticed the start of the trouble about 3 years ago, but they were not aware of its nature then.

Late Blight has not been difficult to control this season in this area, according to the growers, but the past few weeks have been very favorable to its development. Several bad spots were noted in certain fields but the overall loss will be comparatively small. Traces of Aster Yellows (Virus) were noted.

Fields were examined in Lincoln, Multnomah, and Clackamas Counties during the period October 27 to November 4. In Lincoln County about 4% of the plants showed a poor type of growth, with a tendency to form a rosette rather than a normal growth of heart. The tips of the fine feeder roots showed an unhealthy condition; they appeared water-soaked and later turned reddish to brown as they died. The larger tap roots appeared healthy.

In Multnomah County, Late Blight was prevalent in celery near Troutdale but practicable control had been obtained by spraying every 10 days. Surface irrigation was used here. Near Portland, where overhead irrigation was used, severe losses occurred because of improper coordination of the spray program and irrigation. Cottony Rot (Sclerotinia sclerotiorum) was scattered through the field near Troutdale, causing about 2 to 3% loss except in the lower corner of the field where loss was severe. A very small percentage of the undesirable rosette type of growth occurred in the fields in Multnomah County.

In Clackamas County Late Blight was prevalent but practicable control had been obtained and no instances of loss were noted. Lesions were limited to older leaves normally trimmed in preparation for market. Rosette and Chlorosis were prevalent and had caused significant loss in some fields. The cause of this trouble has not been determined. The possible correlation with nutrients available in the soil is being investigated.--Lytton W. Boyle

CALIFORNIA: On August 4 a trip was made to Santa Clara County, with Dr. Wm. C. Snyder and Dr. H. Earl Thomas. One celery field observed was 100% affected by Western Celery Mosaic (Virus). The disease appeared when the crop was nearly mature, and the only loss was in lowering the celery from first grade. This field also showed about 10% of Aster Yellows, and another field about 3%. Harvest was being rushed in another field because Late Blight was becoming established.

Young plantings observed in the Salinas Valley, October 9 and 10, appeared to be free from diseases except for occasional plants with Aster Yellows.

On November 1, a trip was made to the Delta area (Terminous district) in San Joaquin County, in company with Dr. Max W. Gardener, Dr. J. B. Kendrick, and Dr. P. A. Ark. Celery is the principal crop in the district around Terminous. Up until this year, a celery-free period in February has been proclaimed by the State Department of Agriculture for portions of Solano, Contra Costa, San Joaquin, Sacramento, and Stanislaus Counties. The celery-free period was not a complete success for the control of Western Celery Mosaic, because roots and crowns of old plants could not be entirely disked under in the rain-soaked fields. In 1944 no celery-free period was proclaimed in this section of California. At the time of this trip, Western Celery Mosaic was found to be present in amounts ranging from 5 to 100%, and in many instances was causing severe stunting, especially of the Golden varieties. None of the fields contained plants of uniform height as is the case in areas free from Mosaic.

Over 50% of the plants in part of one field were affected by Blackheart (improper water relations). The owner stated that the probable cause was improper irrigation practices.

Most of the fields contained low percentages of Calico (Virus) plants, but one field had about 20%.

Occasional Aster-Yellows diseased plants were present in most of the fields; about 10% was observed in one.

One field, of the Golden variety, was suffering a 75% loss from Fusarium Yellows. Another field, of the resistant Cornell variety, contained infected plants but damage to them was small.

In 2 fields severe loss was being caused by Crater Rot due to Erwinia carotovora, which affects the older petioles and makes stripping of the older leaves necessary. Dr. Ark has a description of this disease in press. --Henry Schneider

DISEASES REPORTED ON SPECIAL CROPS

Reports are of Emergency Plant Disease Prevention Project surveys.

COTTON DISEASES IN TEXAS: Surveys were made in the central and southern portions of the State in the period from September 18 through October 15.

Root Rot (Phymatotrichum omnivorum) was general throughout the blackland area, and was more severe in Nueces, Caldwell, Bexar, Kenedy, Lavaca, and Fayette Counties. Losses in these counties will range from 10 to 25%.

Angular Leaf Spot [Xanthomonas malvacearum] was found in all fields visited, and traces of Cercospora Leaf Spot were found in most fields.

Traces of cotton Rust [Puccinia stakmanii], Angular Leaf Spot, Cercospora Leaf Spot, and Root Rot, were noted in an isolated field south of Zapata, Zapata County.--George E. Altstatt.

VERTICILLIUM WILT AND AN UNDETERMINED DISEASE OF MINT IN OREGON: Dr. W. Winfield Ray reports that Verticillium albo-atrum was isolated from the roots of mint collected near Gervais in Marion County. The disease was causing considerable damage in the fields observed. An "Coze" also occurs on the stems of mint in this area. Several organisms have been found associated with this trouble, but as yet its primary cause is not known.--Lytton W. Boyle, October.

SEEDLING ROOT ROT OF SUGAR BEETS IN WESTERN NEBRASKA: No extensive survey of sugar beets has been made, but the county agent of Keith County and Dr. J. A. Jensen of the Nebraska Agricultural Experiment Station called our attention to the serious difficulties experienced by growers in the South Platte irrigation area around Ogalalla. Six thousand acres of sugar beets were planted and replanted, sometimes as many as 3 times, finally to be mostly abandoned or planted to other crops. Probably 900 acres will be harvested. The difficulty appears to have been a type of Seedling Root Rot, apparently not black root, as plant food supply was ample. Dr. Jensen stated that a species of Aphanomyces had been isolated which appeared to be causal, and that experiments were still under way. This disease does not appear to have caused trouble in other sugar beet areas.--C. M. Slagg

DISEASES OF SUGAR BEETS IN SOUTHEASTERN WYOMING AND NORTHERN COLORADO: During the week ending October 14, surveys were made in Goshen and Platte Counties in Wyoming and in Weld and Larimer Counties in Colorado.

Leaf Spots due to Cercospora beticola and Phoma betae were found to be general in the territory surveyed but causing no damage.

Trace amounts of Rhizoctonia solani causing Root Rot were found in many of the fields inspected in the Wyoming Counties. In one field, however, in Goshen County, a high percentage of the plants were infected. In Colorado, only trace amounts of Rhizoctonia Root Rot have been found in the fields inspected. A slight amount of Verticillium Wilt (V. albo-atrum) was observed in one field in Weld County. Pythium sp. (possibly butleri) causing Root Rot was quite prevalent in the same field in Goshen County, Wyoming, where the incidence of the Rhizoctonia Root Rot was high. Approximately 40% of the plants in this 40-acre field were infected with these root-rotting organisms.

Phytomonas beticola, Bacterial Pocket, was found in small amounts in 2 fields in Goshen County and in one field in Larimer County. Agrobacterium tumefaciens, Crowngall, was found on a few beets in one field in Larimer County.

Of Virus diseases, Curly Top was found on a few scattered plants in one field in Larimer County. Savoy was found in trace amounts in 2 fields in Larimer County and in one field in Goshen County. Mosaic was found in small amounts in many of the beet fields in the territory surveyed.--E. W. Bodine

SUGAR BEET DISEASES IN CALIFORNIA: Rust (Uromyces betae) was present in the Salinas Valley (October 9 and 10), but apparently was doing little damage as the plants were maturing.

In a later trip to Salinas (November 3-4), the only field in Monterey County known to be infested with the Southern Root Rot fungus, Sclerotium rolfsii, was visited in company with Mr. William Lewis, assistant Agricultural Commissioner. The disease was causing about 5% loss in the 80-acre field.

In the Delta area (Terminous district) of San Joaquin County, visited November 1 with Dr. Max W. Gardener, Dr. J. B. Kendrick, and Dr. P. A. Ark, the following diseases were noted: Rootknot (Heterodera marioni) caused some stunting in one field. About 50% of the plants in one field showed Mosaic but no apparent loss resulted. A Wet Root Rot (cause undetermined) was causing premature death of a few plants.--Henry Schneider.

REPORTS ON DISEASES OF PEANUT

Reports are of Emergency Plant Disease Prevention Project surveys

SOUTHERN BLIGHT AND DIAPORTHE ON PEANUT IN VIRGINIA: Most of the peanuts were harvested when the principal peanut growing counties of Virginia were visited in October. The most severe disease in the peanut belt this year was Southern Blight, caused by Sclerotium rolfsii. The damage caused was not so severe as last year according to growers in Southhampton and Nansemond Counties; however, more complaints were received by the agricultural agent of Isle of Wight County this year than last.

The growers are chiefly impressed by the dead plants in the field, but the principal source of loss is from the large number of plants that are affected slightly or not at all above ground, but on pulling leave most of the nuts in the soil.

The reason the nuts are left in the soil is that the peg(gynophore) is weakened at the soil line by rot. The rot usually severs the peg except for a few fibers. This rot is apparently caused by Sclerotium rolfsii which is found on the dead leaves scattered around the base of the plant and on the pegs. Occasionally the fungus grows down the peg to the nut, covering it with mycelium and filling the cavities of the rotted nut with sclerotia.

The severed nuts are usually rotted, but a surprisingly large number are sound. Apparently the state of preservation of the nuts is affected more by their degree of maturity when the peg is severed than by the fungi associated with the rot.

The grower expresses the increased severity of the disease in this way: "I used to be able to save the July nuts", referring to those set in July, which because of their brown hull can be marketed only for oil.

Another disease contributing to the number of dead plants in many fields was Southern Bacterial Wilt (Bacterium solanacearum).

Stem Blight of peanuts caused by Diaporthe sojae Lehm. was prevalent on the Virginia peanut experiment station plots at Holland. This is the first report of this organism, which causes Pod and Stem blight of soybeans, on peanuts according to Dr. Lindsay S. Olive who identified the fungus.

Plants apparently killed by these diseases were often overgrown with mycelium of Sclerotium rolfsii. Knowing the proclivities of the latter

for growing ov r dead plant material it seems rash to describe all the dead plants on which S. rolfsii is growing as victims of that fungus.

In South Carolina last year many peanut fields were observed by the writer in which a high percentage of plants were attacked by the lesser corn stalk borer. Many of these plants were subsequently overgrown by S. rolfsii. The trouble was reported as due to the insect.

The relative parasitism of these fungi should be studied before long-time experiments on the effect of rotation are initiated.--R.E. Atkinson

SCLEROTIUM ROLFSII ON PEANUT IN TEXAS: A recent survey (October 19-21) of the peanut crop in the Yoakum-Stockdale-Pearsall area made with Dr. A. A. Dunlap, indicated that Southern Blight (Sclerotium rolfsii) and Texas Root Rot (Phymatotrichum omnivorum) had caused about a 25% loss of plants, most of this due to S. rolfsii. Cercospora Leaf Spot was general, but had not caused significant injury.

Peanut plants are often attacked at the crown by Sclerotium rolfsii, and when the infected plants are pulled at harvest, the nuts are left in the ground. One field of approximately 12 acres, east of Pearsall, had a dense stand of seedlings developed following harvest, indicating better than 50% loss of nuts due to S. rolfsii. The seedlings were also infected with this organism. A similar situation was observed in a 20-acre field in Waller County, where the seedlings developing after harvest from nuts left in the soil indicated a 15% loss.--George E. Altstatt

PEANUT DISEASES IN OKLAHOMA: Twenty-one plantings were surveyed consisting of approximately 750 acres during the periods October 1 to 11 and October 26 to 31.

Leaf Spot (Cercospora personata and Cercospora arachidicola) caused severe defoliation in plantings at Blevins (Hempstead County) and Ozark (Franklin County). In both of these plantings, consisting of approximately 350 acres, a great reduction in the hay crop resulted from early infection by the leaf spot organisms. The infected leaflets usually had 4 to 6 spots covering nearly 80% of their surface. A similar infection was observed on the main Experiment Station at Fayetteville; however, only slight defoliation occurred.

Besides leaf infection, petiole, stipule, and stem infections occurred at Blevins and Ozark. From specimens sent him for laboratory studies and verification Dr. W. Winfield Ray made the following isolations: (1) From infected stipules, petioles, and occasionally from the dark-colored lesions on the stem a species of Pleospora was isolated. (2) The fungus most abundant in the stem lesions was a species of Colletotrichum. According to Dr. Ray, the spores of the Colletotrichum isolated are shaped much like those of the common bean anthracnose fungus.

Several of the other surveyed plantings had leaf infections; however, the above 3 plantings were the only ones severely infected.

Southern Blight (Sclerotium rolfsii) also occurred in the plantings at Blevins and Ozark. The number of plants infected at Ozark was greater than in any other locality. Localized areas in this large planting had losses of nearly 40%. Considering the field as a whole a loss of less than 5% was observed.

DISEASES REPORTED ON CORN

Except where noted, reports are of Emergency Plant Disease Prevention Project surveys.

EAR ROTS AND OTHER DISEASES IN ARKANSAS: Many of the observations reported in this summary, especially on corn ear rots, were made independently by Dr. E. M. Cralley of the Department of Plant Pathology.

Three test plantings, located at Clarkedale, Fayetteville, and Hope, of hybrids and open-pollinated varieties, were examined during October to determine the prevalence of ear rotting fungi. Similar observations were made in 11 commercial plantings throughout the southern tier of counties. Approximately 500 bushels were surveyed. The fungi found infecting various ears belong to the following genera: Diplodia, Fusarium, Aspergillus, Penicillium, and Rhizopus. The incidence of Ear Rot fluctuated with each hybrid and open-pollinated variety.

Diplodia zeae was more prevalent and destructive than any other ear-rotting fungus. Infection varied from a trace in many of the open-pollinated varieties, to nearly 10% in the most severely infected hybrids and open-pollinated varieties. In many instances, Diplodia rot was limited to the stalk, causing a weakening at the first and second nodes. Several ears showed no signs of mycelium, but when the ear was split, abundant fruiting bodies were present on the cob and between the kernels.

Fusarium (presumably moniliforme)-infected ears showed 2 distinct types of symptoms: those in which the fungus entered the injuries caused by corn earworms, and those with infected kernels scattered over the diseased ears. The infections varied from a trace to nearly 10%. Typical symptoms, i.e., injured kernels scattered throughout the diseased ears, never exceeded 3%.

Ear rots caused by Aspergillus, Penicillium, and Rhizopus were found in every planting surveyed. In no case, however, was the infection greater than a trace to 1%.

Smut (Ustilago maydis) caused an appreciable reduction in the kernels at the tip of many ears in most of the plantings surveyed, its incidence ranging from a trace to nearly 25%. As in the case of Fusarium, several of the Smut infections were associated with corn earworm injury.

Hybrid plantings, in most instances, showed the highest percentage of Ear Rot. One of the open-pollinated varieties showed more injury resulting from Smut infections.

Charcoal Rot or Lodging (Sclerotium bataticola) was observed, rather early in the growing season, in several plantings. A loss of 3% of the stalks, in a 15-acre planting near Ozark, occurred early in the season. The small black sclerotial bodies were observed in the adventitious roots and in the pith up in the stalk approximately 15 inches.

Late-maturing corn at Ozark and Fayetteville showed severe infections of Rust (Puccinia sorghi), and scattered lesions resulting from Helminthosporium turcicum infections. Since these fungi invaded the plants rather late in their development, little, if any, loss was anticipated.--Howard W. Larsh

STALK AND EAR ROTS IN MISSOURI: A survey to determine incidence of stalk rot and ear rots in field corn was made in northeastern and north-central Missouri during the period ending November 4. In general, the

corn appears to have matured without damage from frosts, and yields will probably be good except in localized areas where the summer drought caused serious damage.

Diplodia zeae Stalk Rot infection was noted in every field, ranging from 6 to 36% and averaging 26.7% for all fields. Since the majority of the infected plants had well-developed ears, it appeared as though most of the infection occurred late in the growing season and that the actual reduction in yield would be relatively low.

A high percentage of ears in all fields showed the presence of Ear-Rotting fungi, apparently closely correlated with high percentage of ears showing worm damage. The Fusarium, Penicillium, Rhizopus, and Gibberella infections were, in general, limited to the tip-ends of the ears and the feeding channels of the insects. The high percentages of ear infections noted, therefore, do not necessarily indicate a correspondingly high loss from these ear-rotting pathogens. In all probability the actual reduction in yield would be relatively low. From 18 to 70% of the ears showed some type of fungus present, the average for all fields being about 45%.

The percentage of ears affected by the various causal agents follows:

Fusarium sp.	6 to 38%	Average 20.2%
Penicillium sp.	2 to 24	10
Gibberella saubinetii[G.zeae]	0 to 20	9
Diplodia zeae	0 to 18	3.8
Nigrospora oryzae	0 to 6	1.4
Rhizopus sp.	0 to 4	Trace

Smut, as noted in previous reports this season, is of minor importance in reducing yields. Smut infection at the nodes was observed in 22% of the fields, infection ranging up to 4%, but averaging only a trace, and ear infection was noted in only 6% of the fields and was responsible for only a trace of damage.--T. M. Bretz

DISEASES IN KANSAS: The principal diseases of corn in south-central and southwestern Kansas in 1944 were common Smut, and Fusarium Ear Rot (F. moniliforme). Less than 0.5% of both Diplodia (D. zeae) and Nigrospora (N. sphaerica) Ear Rots was found. Rust and the undetermined Bacterial Leaf Spot were also present to some extent in every field but caused only a trace of loss. Charcoal Rot was present in many fields but not so plentifully as in eastern Kansas.

In southwestern Kansas corn diseases were overshadowed by the ravages of the southwestern corn borer (Diatraea grandiosella Dyar).--C. M. Slagg, Oct. 15-31

SMUT AND OTHER DISEASES IN NEBRASKA: The most serious corn disease observed in western Nebraska during October is common Smut. In one field in Perkins County 56% of the stalks were affected in some degree, and the estimated loss from Smut was 28% of the total crop, which figure was probably too low. In fields badly attacked by Smut, a large proportion of the stalks are barren, and some are so badly stunted that they never reach the flowering stage.

It was observed that the proportion of smutted corn plants was much higher in upland fields than in fields in the same district grown under irrigation. Two adjoining fields in the Platte River Valley 3 miles

southeast of North Platte were seen, one of which was irrigated. The irrigated field showed 10% of the plants with Smut lesions, and an estimated measurable loss of 2% of the total crop, while the adjoining nonirrigated field showed 42% of the stalks affected, with an estimated loss of 18% of the total crop.

Based on counts made in 14 fields in 7 western and southwestern counties, the average measurable losses from corn Smut in 1944 were 9% of the total crop in this district.

Other diseases seen were Fusarium (moniliforme) Ear Rot, Diplodia Ear Rot, Nigrospora Cob Rot (N. sphaerica), Rust, and Bacterial Leaf Spot. Of these, only the Fusarium Ear Rot caused measurable losses of approximately 4% of the total crop. The total measurable losses from corn diseases observed in these western Nebraska counties were approximately 13%.--C. M. Slagg.

SPICARIA ASSOCIATED WITH STALK ROT OF CORN IN TEXAS: Early in September 1944, specimens of corn with Stalk-Rot symptoms were submitted to the writer by Dr. P. A. Young of the Tomato Disease Laboratory at Jacksonville, Texas, for the identification of the causal fungus. These stalks were a part of a collection he had made on a trip from Jacksonville to Beaumont in a survey of the area to determine the extent of injury caused to corn by the Charcoal Rot fungus, Sclerotium bataticola.

Sclerotia of S. bataticola were found in many of the stalks, but in other stalks with apparently the same macroscopic symptoms, no sclerotia were found and platings were made from them. The organism cultured from a majority of these stalks was Spicaria elegans var. sorghina, a fungus that has been identified by the writer as the cause of a Stalk Rot of sorghum in north and west Texas.

The collection of this fungus in east Texas suggests that it may be rather widespread and a factor of importance in the cause of Stalk Rot in this general area.--Edgar C. Tullis, Division of Cereal Crops and Diseases, U. S. Bureau of Plant Industry, Soils and Agricultural Engineering, Beaumont, Texas.

DISEASES REPORTED ON SORGHUM AND RELATED HOSTS

Reports are of Emergency Plant Disease Prevention Project surveys.

LEAF SPOTS OF SORGHUM IN VIRGINIA: In a small grain sorghum variety test at Blacksburg leaf spots caused by Cercospora sorghi and Helminthosporium turcicum were found. In addition, 2 spots believed to be of bacterial origin were sent in for identification. No smut or rust was present on varieties in this test.--R. E. Atkinson, Sept. 4-16.

LEAF BLIGHT OF SUDAN GRASS IN TEXAS: Leaf Blight (Bacterium sp. ?) was severe on a small planting of sweet sudan grass near Robstown.--George E. Altstatt, Sept. 18-Oct. 15

SORGHUM DISEASES IN NEBRASKA: Kernel Smuts (Sphacelotheca sorghi and S. cruenta) are the most damaging diseases of sorghum in Nebraska. Covered Smut (S. sorghi) was found in all parts of the State wherever

sorghum was grown, but not in all fields. Wherever seed treatment had been carried out, the disease was absent. Loose Smut (S. cruenta) was found only in one field in Garden County.

Only one other disease caused measurable loss to sorghum. This was Head Smut (Sorosporium reilianum) [Sphacelotheca reiliana] which was found in only one field in Adams County, but caused 20% loss in this field. Rust (Puccinia purpurea) and Bacterial Leaf Spot were widespread but caused only a trace of injury.

Based on counts made in 23 fields in 9 counties the measurable losses from sorghum diseases in Nebraska totalled 11%, distributed as follows: Kernel Smut 10%, Head Smut 0.5%, Rust trace, Bacterial Leaf Spot trace.--C. M. Slagg, report for October.

SORGHUM DISEASES IN KANSAS: Covered Kernel Smut is the most damaging disease of sorghum in Kansas in 1944. It was found in all parts of the State but not in all fields. Where seed treatment had been carried out, the disease was absent. A total of 65 fields have been examined in 17 central and western Counties. Eighteen of these fields in 10 counties showed a trace to 85% loss, with an average loss for the areas so far surveyed of 7% of the total crop. Loose Kernel Smut was found in only one field in Ford County.

Rust and Bacterial Leaf Spots were widespread but caused no measurable losses. A Septoria Leaf Spot (species undertermined) was collected on Atlas forage sorghum at the Agricultural Experiment Station at Manhattan. --C. M. Slagg, Oct. 15-31.

COVERED KERNEL SMUT IN COLORADO: Miss Helen Kroeger, Seed Analyst, Colorado Agricultural Experiment Station, reports that during 1944, 21% of the sorghum samples sent in for purity test to the Seed Laboratory showed Smut (Sphacelotheca sorghi)infection.--E. W. Bodine.

RICE DISEASES IN ARKANSAS

Howard W. Larsh

Approximately 1200 acres were surveyed between September 5 and 18.

Brown Spot (Helminthosporium oryzae) had increased very little during the past month (earlier report PDR, Sept.7,p.893). In most fields some spotting was found; however, in the most severely infected fields near Ulm (Monroe County), reduction of the leaf surface was not more than 2%.

Narrow Brown Leaf Spot (Cercospora oryzae) likewise was found in varying amounts in several of the plantings surveyed. In most instances, only a few spots occurred on an infected leaf. A loss of 2% of the leaf surface occurred in a 50-acre planting in Arkansas County.

Leaf Smut (Entyloma oryzae) caused very little damage to the infected plants in a planting near Hunter (Woodruff County).

Blast (Piricularia oryzae) resulted in considerable loss in 2 plantings. In a small acreage of the Cody variety near Hunter, the plants were attacked by the blast fungus while they were very young, causing the leaves to wither and dry. Many young plants were infected so severely,

in this planting, that they were killed. (Thanks are due Dr. C. Roy Adair for calling our attention to this field and later accompanying us to this region). The most severely infected mature planting was observed near Stuttgart (Arkansas County), where 25 acres of a short-grain variety (probably Caloroccclusa or Cody) was infected to the extent that a loss of nearly 50% was estimated. The grower, earlier in the season, estimated that the field would average 70 bushels to the acre, but due to blast it will probably not yield much more than 30 bushels to the acre.

Bordered Sheath Spot (Rhizoctonia oryzae) infected plants were collected by Dr. C. Roy Adair from a field of the Blue Rose variety near Stuttgart; the amount of infection was limited to a trace.

White Tip (Physiogenic) remains widespread in the rice growing areas of the State. This disease was very obvious in one large planting of the variety Blue Rose near Stuttgart. Specimens taken from this field showed sheaths twisted, which resulted in distorted emergence of the panicle.

Straighthead (Physiogenic) was observed but was limited to only a few plants. In comparison with the incidence of straighthead last year this disease was negligible during the 1944 season.

In surveys made October 1 to 13, and October 26 to 31, 20 fields consisting of approximately 850 acres were examined. Many of the observations reported in the following summary were made independently by Dr. E. M. Cralley of the Department of Plant Pathology, Arkansas Experiment Station.

Brown spot occurred in varying amounts in nearly all of the fields surveyed. The disease was more severe on a few hybrids than on the standard commercial varieties grown in Arkansas. In the trial planting at the Rice Branch Experiment Station, Stuttgart, many of the hybrids showed a reduction of 5%, due to Helminthosporium. No commercial planting was observed with more than 2% reduction of the leaf surface from brown spot.

Narrow Brown Leaf Spot had increased considerably during the past month. A reduction of nearly 25% of the leaf area was observed on the varieties Arkrose, Lady Wright, and Zenith. A great deal of difference in varietal susceptibility was observed in examining the test plantings at Stuttgart. Since most of the increase in the spotting occurred during the month of September very little reduction in yield was anticipated.

Stem Rot (Leptosphaeria salvinii) caused less reduction in yield this season than last. In a test planting near Wynne (Cross County) the following varieties were observed to be moderately to severely infected: Arkansas Fortuna, Nira, Lady Wright, Prelude, and hybrids of medium and long grain varieties. Two commercial plantings in Prairie County were severely infected by this fungus. A loss of nearly 25% was estimated in a 50-acre planting near Hazen (presumably the variety Zenith).

Leaf Smut occurred in plantings near Harrisburg (Poinsett County) and McCrory (Woodruff County). Very little reduction in the leaf area resulted since the infections were limited to a trace.

Blast was observed on the Rice Branch Experiment Station, at Stuttgart; however, infection was limited to a few plants. No commercial fields, other than those reported in a previous summary, was observed infected by blast.

Straighthead caused very little reduction in yield this season. Only a few affected plants were observed. Last season straighthead caused considerable loss to several rice growers.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

RICE DISEASES IN TEXAS IN 1944

Edgar C. Tullis and George E. Altstatt

During the period of October 25 to 28, a rice disease survey was made in the rice growing area of the Coastal Plain from Beaumont to Bay City, El Campo, Eagle Lake, Hackley, and return to Beaumont.

The three diseases found most commonly were: Cercospora Leaf Spot (Cercospora oryzae), Brown Leaf Spot (Helminthosporium oryzae), and Leaf Smut (Entyloma oryzae). Estimates of the percentages of leaf area affected by each of these diseases on the different varieties in separate fields in the various counties are given in Table 1.

Table 1. Rice diseases in Texas in 1944

Variety and Disease	Percentage leaf area infected in fields observed in the following counties							
	Brazoria	Chambers	Harris	Jefferson	Liberty	Matagorda	Waller	Wharton
Blue Rose								
Cercospora Leaf Spot			T-5					25-30
Brown Leaf Spot		10	T	15				
Leaf Smut			T					
Early Prolific								
Cercospora Leaf Spot								10-20
Brown Leaf Spot								T
Edith								
Cercospora Leaf Spot						15-20		
Fortuna								
Brown Leaf Spot							T	
Leaf Smut							T-5	
Rexoro								
Cercospora Leaf Spot	15	T	50		50	T-5		10-15
	15		50					30-35
Brown Leaf Spot	T	10						T
	10							
Leaf Smut	35	T						T

Table 1. (concluded) Rice diseases in Texas in 1944

Variety and Disease	Percentage leaf area infected in fields observed in the following counties							
	Brazoria	Chambers	Harris	Jefferson	Liberty	Matagorda	Waller	Wharton
Texas Patna								
Cercospora Leaf Spot		10						T-5
Brown Leaf Spot		T 30						T
Leaf Smut		T						
Zenith								
Cercospora Leaf Spot			T-5					
Brown Leaf Spot			10					
Leaf Smut			T					

a. = Trace

In addition, the Brown-Bordered Leaf Spot (Phyllosticta glumarum) was found to some extent. It was most severe on Zenith in Harris County, and on Rexoro east of Angleton, Brazoria County. There was a trace on Rexoro west of Wharton, and also on Early Prolific at Pierce, Wharton County.

DIVISION OF CEREAL CROPS AND DISEASES AND EMERGENCY PLANT DISEASE PREVENTION PROJECT U. S. BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING

OTHER REPORTS ON DISEASES OF CEREAL CROPS AND GRASSES

Reports are of Emergency Plant Disease Prevention Project surveys.

RAMULARIA LEAF SPOT ON BUCK WHEAT IN NEW ENGLAND: During a trip in northern Aroostook County, Maine, the last week of August, an unfamiliar leaf spot was seen in several buckwheat fields. A small porportion of the leaves in some fields appeared to have been killed. The fungus was identified by Dr. Thomas Sprecston. Jr., as Ramularia sp. What appeared to be the same leaf spot was also seen on less than 1% of the plants in one field in Grand Isle, Vermont, during the second week in September.--Robert C. Cassell

ASHY STEM BLIGHT AND A BACTERIAL LEAF SPOT OF SESAME IN TEXAS: Sesame grown at College Station and Denton, Texas, in test blocks has been found in a wilted condition, with darkened, brownish green streaks along the stems, often appearing to be increasing from the top of the plant downward. Plants affected often show "glazed" areas along the browned surface, with pycnidia showing under this surface. Mature plants collected at College Station more recently have been found to have sclerotia of Sclerotium bataticola in the interior area of the stems. Specimens, collected September 9, were sent to Dr. D. A. Preston, who reports find-

ing S. bataticola on the roots and Macrophomina phaseoli on the stems. He reports that the "glazed" material is the epidermis which has been pushed up by the pycnidia beneath it.

The sesame at College Station was also showing a leaf spot of the type caused by bacteria. Dr. Preston agrees that these spots are definitely bacterial, and apparently caused by Bacterium sesamicola Takimoto.-- George E. Altstatt.

DISEASES IN WINTER WHEAT FIELDS IN KANSAS AND NEBRASKA: Over most of Nebraska, winter wheat examined during October is in good condition. Leaf Rust (Puccinia rubigo-vera var. tritici) is widespread, being found in every field examined in all parts of the State. In some fields the infestation is so heavy that the ground is covered with a yellow brown coat of rust spores, and the whole field presents a yellow appearance.

Speckled Leaf Blotch (Septoria tritici) was seen in eastern counties, but not in the western part of the State.

A Root Rot diagnosed as Gibberella Seedling Blight (Gibberella saubinetii) [G. zeae] caused the plowing up and reseeding of more than 100 acres of wheat in York County. Fields in which this trouble occurred had a history of Scab in last summer's crop.

In Kansas, the most conspicuous and damaging disease of wheat at present is Leaf Rust. This disease of winter wheat was universally present in Kansas in October and in many areas was so plentiful that the fields were yellow even to the casual observer. In many of these fields, the soil surface was completely covered with a golden-brown layer of rust spores shed from the leaves. Leaf Rust was particularly prevalent in early-planted fields in southwestern and south-central Kansas. Large numbers of sheep and lambs from the western ranges are brought in every fall and over-wintered on wheat pasturage in this district. There seems little doubt that the grazing capacity of these fields has been seriously curtailed by the disease.

Speckled Leaf Blotch is also widespread on winter wheat in Kansas. A relatively dry October limited its spread, and the least amount of infection was found in the northwestern growing areas, where September rainfall was also deficient.-- C. M. Slagg

WHEAT BUNT IN SOUTHEASTERN IDAHO: Dwarf smut(Tilletia tritici) [T. caries] was observed in moderate amounts (traces to 5%) in the area near Soda Springs and Grace (Sept. 17-23). In Teton County, near Tetonia, about 10% of tall bunt and 5% of dwarf bunt were observed in the same field. Very little was found in fields southeast of Ashton, and affected plants observed indicated the possibility of intermediate types as regards height of plant. Throughout this area, a heavy snowstorm on September 17 caused severe lodging of bearded wheat that was still unharvested.

October 9 and 10 were spent with Mr. Drue Dunn, County Agent of Power County, on an extensive survey of winter wheat fields. About 55 fields of the Turkey variety were examined, covering representative locations in nearly all the main sections of the area. Although the entire fields were not examined, it is believed that a good cross-section of the distribution of dwarf smut was noted. All of the fields had been harvested when they were inspected.

In general, smut is believed to be widely scattered in the area, but in most cases damage is light. In one field, dwarf smut incidence was estimated to be about 10%, with spots showing 30 to 50% damage.

Throughout the survey a type of smut was observed that appeared to be intermediate in regard to height of affected plants, which are distinctly dwarfed but not typical of the true dwarf type.

In this area, seed treatment, mostly with Ceresan, is used extensively, and smut apparently has not become an important factor.--Earle C. Blodgett.

DISEASES REPORTED ON GRASSES: Diseases on Velvet Bent Grass Turf in Rhode Island. Dollar Spot (Sclerotinia homoeocarpa) was present in moderate to heavy proportions as natural infection in some areas of the experimental turfs in Kingston. Large Brown Patch (Rhizoctonia solani) was also present in moderate amounts in the Kingston turfs. Fairy Ring (reported to be caused by a fleshy mushroom type fungus, probably Agaricus campestris) was found on the golf course at Point Judith Country Club. It was killing the grass quite badly on 3 greens and was present on another, and was also present to some extent on the fairways. In all cases it occurred where the grass is mowed, preventing the formation of the fleshy fruiting bodies.--Robert C. Cassell, Aug. 17-18

Grass diseases in Wisconsin. On quack grass, Agropyron repens, stem rust (Puccinia graminis) was observed in Dane County; ergot (Claviceps purpurea) was general in Kenosha County and was observed in Door, Dodge, Dunn, and Washburn Counties; tar spot (Phyllachora graminis) was abundant locally in Door County and was noted in Washburn County.

On foxtail grass, Setaria glauca, head smut caused by Ustilago neglecta was observed in Dane, Dunn, and Eau Claire Counties; leaf spot (Piricularia grisea) in Dane County. On Setaria viridis, downy mildew (Sclerospora graminicola) was noted in Dunn and Dodge Counties, and Piricularia leaf spot in Washburn County.

On sandbur, Cenchrus pauciflorus, head smut (Sorosporium syntherismae) was noted in Sauk, Eau Claire, and Dunn Counties.

On switch grass, Panicum virgatum, rust (Uromyces graminicola) was observed in Dunn County, and head smut (Sorosporium syntherismae) in Washburn County.--Edwin E. Honey, from reports for July and August

Grass diseases in Minnesota. At the Waseca experiment station very heavy infection of crown rust (Puccinia coronata) occurred on Festuca elatior, and a light infection of stem rust (P. graminis) on Arrhenatherum elatius. Stem rust did not occur on the fescue nor crown rust on the tall oat grass.

Scolecotrichum graminis occurred commonly on Phleum pratense, and ergot on Bromus inermis.--Ian W. Tervet, Aug. 14-18

Stem Rust on Timothy in Iowa. Timothy growing in clover fields examined in southern Iowa during September was infected with stem rust, which was causing slight damage.--Edgar F. Vestal

Ergot on Grasses in Wyoming. Ergot was found on smooth brome grass (Bromus inermis), western wheatgrass (Agropyron smithii), crested wheatgrass (A. cristatum), and nodding wild rye (Elymus canadensis) in Sheridan County along the ditch banks and roadsides. Western wheatgrass was heavily infected in some of the pastures in Sheridan County. The number of sclerotia ranged from 3 to 5 per head.--E. W. Bodine, report for weeks ending Aug. 26, and Sept. 2

Powdery Mildew on Wild Rye in Washington. Apparently a strain of Erysiphe graminis (identified by Dr. W. W. Ray) observed on Elymus condensatus in Douglas County, July 17, does not transfer readily if at all to wheat, since no powdery mildew was evident on wheat plants across the fence from the grass. The wild rye was well covered with the fungus so that the amount of inoculum would be no factor in this instance.--Lytton W. Boyle.